CLAIMS

1. A single-layer or multi-layer, heat-shrinkable film having a layer of a thermoplastic resin material comprising an alicyclic structure-containing polymer (A) having a repeating unit (a) consisting of an alicyclic structure, wherein a proportion of a repeating unit (b) of a ring structure having no norbornane ring structure in the repeating unit (a) is at least 10% by weight.

2. The heat-shrinkable film according to Claim 1, wherein the thermoplastic resin material layer is a layer of a resin composition comprising a soft polymer (B) in addition to the alicyclic-structure containing polymer (A).

3. The heat-shrinkable film according to Claim 1, which is a multi-layer, heat-shrinkable film further having at least one crystalline resin layer in addition to at least one layer of the thermoplastic resin material.

4. The heat-shrinkable film according to Claim 1, which is a film stretched at a draw ratio of at least 1.5 times in at least an uniaxial direction.

5. The heat-shrinkable film according to Claim 4, which is a film biaxially stretched at a draw ratio of 1.5 to 10 times in each of machine and transversal directions.

6. The heat-shrinkable film according to Claim 1, wherein the film impact retention after heat shrinking is at least 70%, and the rate of increase of water vapor transmission rate after heat shrinking is at most 1.20.

7. The heat-shrinkable film according to Claim 1, wherein the heat shrinkage factor when the film is held under a temperature atmosphere ranging from a temperature lower by 40°C than the glass transition temperature of the alicyclic structure-containing polymer (A) to a temperature higher by 80°C than the glass transition temperature [(Tg - 40°C) to (Tg + 80°C)] is 3 to 70%.

8. The heat-shrinkable film according to Claim 1, which has a thickness of 1 to 100 μm.

9. The heat-shrinkable film according to Claim 1, wherein the alicyclic structure-containing polymer (A) has a weight average molecular weight of 5,000 to 500,000, a glass transition temperature of 50 to 300°C and a melt flow rate of 0.5 to 150 g/10 min as measured at a temperature of 280°C under a load of 2.16 kg in accordance with JIS K 6719.

10. The heat-shrinkable film according to Claim 1, wherein a proportion of the repeating unit (a) consisting of the alicyclic structure in the alicyclic structure-containing polymer (A) is at least 50% by weight.

11. The heat-shrinkable film according to Claim 1, wherein the alicyclic structure-containing polymer (A) is a thermoplastic norbornene resin.

12. The heat-shrinkable film according to Claim 11, wherein the thermoplastic norbornene resin is a hydrogenated product of a ring-opening (co)polymer of a norbornene monomer.

13. The heat-shrinkable film according to Claim 11, wherein the repeating unit (b) of the ring structure having no norbornane ring structure is a repeating unit derived from a ring-opening (co)polymer of at least one norbornene monomer selected from the group consisting of norbornenes, dicyclopentadienes, methanotetrahydrofluorenes and methanohexahydroanthracenes.

14. The heat-shrinkable film according to Claim 12, wherein the alicyclic structure-containing polymer (A) is a hydrogenated product of a ring-opening polymer of a dicyclopentadiene.

15. The heat-shrinkable film according to Claim 12, wherein the alicyclic structure-containing polymer (A) is a hydrogenated product of a ring-opening copolymer of a norbornene and a dicyclopentadiene

16. The heat-shrinkable film according to Claim 12, wherein the alicyclic structure-containing polymer (A) is a hydrogenated product of a ring-opening copolymer of a norbornene and a tetracyclododecene.

17. The heat-shrinkable film according to Claim 2, wherein the soft polymer (B) is a polymer having a glass transition temperature of at most 30°C.

18. The heat-shrinkable film according to Claim 3, wherein the crystalline resin is at least one polyolefin resin selected from the group consisting of polyethylene resins and polypropylene reins.

19. The heat-shrinkable film according to Claim 1, wherein the heat-shrinkable film is a multi-layer, heat-shrinkable film, and a proportion of the thickness of the layer of the thermoplastic resin material comprising the alicyclic structure-containing polymer (A) is 10 to 90% based on the total thickness of the film.

20. A package obtained by thermally shrink-wrapping a product to be packaged with the heat-shrinkable film according to any one of the Claims set forth above.